

5 The adapter 19 is of hollow cylindrical steel (4140) construction. The purpose of the adapter 19 is to protect the grenade fuzes 17 located at the aft end of the payload from projectile gun forces during firing. The fuzes 17 of the last layer of grenades 12 fit inside these adapters 19. The dimensions of the adapter 19 (a hollow cylinder) has an outer diameter of 1.22 inches and inner diameter of 1.050 inches; and has a length of 1.20 inches.

10 The embodiments described herein are included for the purposes of illustration, and are not intended to be exclusive; rather, they can be modified within the scope of the invention. Other modifications may be made when implementing the invention for a particular application.

What is claimed is:

1. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions wherein the dispense mechanism comprises:

20 means to initiate grenade payload expulsion;  
means to expulse grenade payload from projectile body;  
means to seal the expulsion gas pressures;  
means to contain grenade payload;  
means to separate the projectile base assembly from the projectile body;  
means to cause the grenades to disperse and stabilize to form uniform pattern effects area over the target.

2. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means which initiates expulsion of the grenade payload is the projectile time fuze which provides the initiation output to the said means to expulse said payload from the projectile.

3. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means which expulse the projectile grenade payload from the projectile body is the payload expulsion charge assembly which comprises:

5 a propellant to produce gas, which further acts on  
a pusher plate or piston onto which the gases from the said propellant act  
through the means which contains the munition payload.

10 4. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means to seal the expulsion gas pressures to prevent excessive gas blow-by as the said grenade payload travels through the projectile body section is an obturator band designed with a set of grooves to weaken the band so that said band will fall apart under spin forces as it emerges from the projectile body section into the air stream.

15 5. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means which contain the grenade payload is the projectile payload section which further comprises:

20 the space occupied by the payload canister assembly;  
an internal diameter steel designed for riling to produce a right handed clockwise rotation as a function of the allowable capacity of the said projectile section as viewed from the said payload canister.

6. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 5, wherein the payload canister assembly comprises:

25 a partitioned steel cylindrical hollow body section in the form of a scallop joined by a tongue and groove design,  
means to hold secure a grenade package of dual purpose anti-personnel anti-material grenades;

means to accept the pre-engraved/engraving copper band and plastic obturator.

7. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 6, wherein the means to hold secure the grenade package comprises:

seating the outer grenades in the scallop shape of the inner diameter of the cylindrical hollow body section to prevent them from rotating independently of the said cylinder;

a plastic centering spacer to hold the inner grenades secure.

8. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 6, wherein the means to accept the pre-engraved /engraving copper band and plastic obturator is by notching the outer rear of the cylindrical body of the payload canister section.

9. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means to separate the projectile base assembly from the projectile body which expulse the projectile payload from the projectile body is the transmitted pressure through the said projectile canister which separates the base fin assembly by the shearing of the treads joining the tail fin assembly to the projectile payload section.

10. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions according to Claim 1, wherein the means to cause the grenades to disperse and stabilize them thus forming uniform pattern effects area over the target is a pre-engraved rotating band attached to the said payload canister section constructed with lands and grooves which fit through the rifled design of the projectile payload section thus causing the said canister assembly to emerge from the projectile body section with spin and velocity to separate the canister and disperse the grenades.

11. A grenade dispense mechanism for non-spin dual purpose improved conventional munitions as in Claim 1 wherein the grenade payload is M80 or dual purpose anti-personnel , anti-material munitions.

5 12. A grenade dispense mechanism for low spin dual purpose improved conventional munitions wherein the dispense mechanism comprises:

- means to initiate grenade payload expulsion;
- means to expulse grenade payload from projectile body;
- means to seal the expulsion gas pressures;
- means to contain grenade payload;
- 10 means to separate the projectile base assembly from the projectile body;
- means to cause the grenades to disperse and stabilize to form uniform pattern effects area over the target.

13. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means which initiates expulsion of the grenade payload is the projectile time fuze which provides the initiation output to the said means to expulse said payload from the projectile.

20 14. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means which expulse the projectile grenade payload from the projectile body is the payload expulsion charge assembly which comprises:

- a propellant to produce gases which further acts on
- a pusher plate or piston onto which the gases from the said propellant act
- through the means which contains the munition payload.

25 15. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means to seal the expulsion gas pressures to prevent excessive gas blow-by as the said grenade payload travels

through the projectile body section is an obturator band designed with a set of grooves to weaken the band so that said band will fall apart under spin forces as it emerges from the projectile body section into the air stream.

5 16. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means which contain the grenade payload is the projectile payload section which further comprises:

the space occupied by the payload canister assembly;

an internal diameter steel designed for rifling to produce a right handed clockwise rotation as a function of the allowable capacity of the said projectile section as viewed

10 from the said payload canister.

17. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 16, wherein the payload canister assembly comprises:

a partitioned steel cylindrical hollow body section in the form of a scallop joined by a tongue and groove design,

means to hold secure a grenade package of dual purpose anti-personnel anti-

material grenades;

means to accept the pre-engraved/engraving copper band and plastic obturator.

20 18. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 17, wherein the means to hold secure the grenade package comprises:

seating the outer grenades in the scallop shape of the inner diameter of the cylindrical hollow body section to prevent them from rotating independently of the said cylinder;

25 a plastic centering spacer to hold the inner grenades secure.

19. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 16, wherein the means to accept the pre-engraved /engraving copper band and plastic obturator is by notching the outer rear of the cylindrical body of the payload canister section.

5 20. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means to separate the projectile base assembly from the projectile body which expulse the projectile payload from the projectile body is the transmitted pressure through the said projectile canister which separates the base fin assembly by the shearing of the treads joining the tail fin  
10 assembly to the projectile payload section.

21. A grenade dispense mechanism for low spin dual purpose improved conventional munitions according to Claim 12, wherein the means to cause the grenades to disperse and stabilize them thus forming uniform pattern effects area over the target is a pre-engraved rotating band attached to the said payload canister section constructed with lands and grooves which fit through the rifled design of the projectile payload section thus causing the said canister assembly to emerge from the projectile body section with spin and velocity to separate the canister and disperse the grenades.

22. A grenade dispense mechanism for low spin dual purpose improved conventional munitions as in Claim 12 wherein the grenade payload is M80 or dual purpose anti-personnel , anti-material munitions.